

SEQUENCE LISTING

<110> MASCI, PANTALEONE PAUL
 LAVIN, MARTIN FRANCIS
 GAFFNEY, PATRICK JOSEPH
 SOROKINA, NATALYA IGOREVNA
 FILIPPOVICH, IGOR VLADIMIROVICH

<120> PLASMIN INHIBITORS FROM THE AUSTRALIAN BROWN SNAKE
 PSEUDONAJA TEXTILIS TEXTILIS

<130> 065064/0133

<140> 09/700,179
 <141> 2001-07-27

<150> PCT/AU99/00343
 <151> 1999-05-07

<150> AU PP3450
 <151> 1999-05-11

<160> 66

<170> PatentIn Ver. 2.1

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 Lys Asp Arg Pro Asp Phe Cys Glu Leu Pro Ala Asp Thr Gly Pro Cys
 1 5 10 15

aga gtc aga ttc cca tcc ttc tac tac aac cca gat gaa aaa aag tgc 96
 Arg Val Arg Phe Pro Ser Phe Tyr Tyr Asn Pro Asp Glu Lys Lys Cys
 20 25 30

cta gag ttt att tat ggt gga tgc gaa ggg aat gct aac aat ttt atc 144
 Leu Glu Phe Ile Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Ile
 35 40 45

acc aaa gag gaa tgc gaa agc acc tgt gct gcc tga 180
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Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
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Lys	Asp	Arg	Pro	Asn	Phe	Cys	Lys	Leu	Pro	Ala	Glu	Thr	Gly	Arg	Cys	
1				5			10				15					
aat	gcc	aaa	atc	cca	cgc	ttc	tac	tac	aac	cca	cgt	caa	cat	caa	tgc	96
Asn	Ala	Lys	Ile	Pro	Arg	Phe	Tyr	Tyr	Asn	Pro	Arg	Gln	His	Gln	Cys	
			20		25				30							
ata	gag	ttt	ctc	tat	ggg	gga	tgc	gga	ggg	aat	gct	aac	aat	ttt	aag	144
Ile	Glu	Phe	Leu	Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Ala	Asn	Asn	Phe	Lys	
			35		40				45							
acc	att	aag	gaa	tgc	gaa	agc	acc	tgt	gct	gca	tga					180
Thr	Ile	Lys	Glu	Cys	Glu	Ser	Thr	Cys	Ala	Ala						
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Ile Glu Phe Leu Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Lys
      35             40             45

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 1 5 10 15
 aaa ggc aac gtc cca cgc ttc tac tac aac gca gat cat cat caa tgc 96
 Lys Gly Asn Val Pro Arg Phe Tyr Tyr Asn Ala Asp His His Gln Cys
 20 25 30
 cta aaa ttt att tat ggt gga tgt gga ggg aat gct aac aat ttt aag 144
 Leu Lys Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Lys
 35 40 45
 acc ata gag gaa ggc aaa agc acc tgt gct gcc tga 180
 Thr Ile Glu Glu Gly Lys Ser Thr Cys Ala Ala
 50 55

<210> 8
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 1 5 10 15
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 35 40 45
 Thr Ile Glu Glu Gly Lys Ser Thr Cys Ala Ala
 50 55

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 Lys Asp Arg Pro Lys Phe Cys Glu Leu Leu Pro Asp Thr Gly Ser Cys
 1 5 10 15
 gaa gac ttt acc gga gcc ttc cac tac agc aca cgt gat cgt gaa tgc 96
 Glu Asp Phe Thr Gly Ala Phe His Tyr Ser Thr Arg Asp Arg Glu Cys
 20 25 30
 ata gag ttt att tat ggt gga tgc gga ggg aat gct aac aat ttt atc 144
 Ile Glu Phe Ile Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Ile
 35 40 45
 acc aaa gag gaa tgc gaa agc acc tgt gct gcc tga 180
 Thr Lys Glu Glu Cys Glu Ser Thr Cys Ala Ala
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 1 5 10 15
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 35 40 45
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 Lys Asp Arg Pro Lys Phe Cys Glu Leu Pro Ala Asp Ile Gly Pro Trp
 1 5 10 15

gat gac ttt acc gga gcc ttc cac tac agc cca cgt gaa cat gaa tgc 96
 Asp Asp Phe Thr Gly Ala Phe His Tyr Ser Pro Arg Glu His Glu Cys
 20 25 30

ata gag ttt att tat ggt gga tgc aaa ggg aat gct aac aac ttt aat 144
 Ile Glu Phe Ile Tyr Gly Gly Cys Lys Gly Asn Ala Asn Asn Phe Asn
 35 40 45

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 Thr Gln Glu Gln Cys Glu Ser Thr Cys Ala Ala
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<212> PRT

<213> *Pseudonaja textilis*

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Lys Asp Arg Pro Lys Phe Cys Glu Leu Pro Ala Asp Ile Gly Pro Trp
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Asp Asp Phe Thr Gly Ala Phe His Tyr Ser Pro Arg Glu His Glu Cys
 20 25 30

Ile Glu Phe Ile Tyr Gly Gly Cys Lys Gly Asn Ala Asn Asn Phe Asn
 35 40 45

Thr Gln Glu Gln Cys Glu Ser Thr Cys Ala Ala
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<210> 13

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<213> *Pseudonaja textilis*

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 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15

gag gtg ctg acc ccc gtc tcc agc
 Glu Val Leu Thr Pro Val Ser Ser
 20

72

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<400> 14
 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15

Glu Val Leu Thr Pro Val Ser Ser
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<210> 15
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 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 -20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cgt ccg gat ttc tgt gaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asp Phe Cys Glu
 -5 -1 1 5

ctg cct gct gac acc gga cca tgt aga gtc aga ttc cca tcc ttc tac 144
 Leu Pro Ala Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 10 15 20

tac aac cca gat gaa aaa aag tgc cta gag ttt att tat ggt gga tgc 192
 Tyr Asn Pro Asp Glu Lys Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40

gaa ggg aat gct aac aat ttt atc acc aaa gag gaa tgc gaa agc acc 240
 Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 45 50 55

tgt gct gcc tga 252
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 -5 -1 1 5
 Leu Pro Ala Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 10 15 20
 Tyr Asn Pro Asp Glu Lys Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40
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 45 50 55
 Cys Ala Ala

<210> 17
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 gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca gag ttg tgt gaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu Leu Cys Glu
 -5 -1 1 5
 ctg cct cct gac acc gga cca tgt aga gtc aga ttc cca tcc ttc tac 144
 Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 10 15 20

9

tac aac cca gat gaa caa aaa tgc cta gag ttt att tat ggt gga tgc 192
 Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40

gaa ggg aat gct aac aat ttt atc acc aaa gag gaa tgc gaa agc acc 240
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 45 50 55

tgt gct gcc tga 252
 Cys Ala Ala

<210> 18
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Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu Leu Cys Glu
 -5 -1 1 5

Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 10 15 20

Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40

Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 45 50 55

Cys Ala Ala

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 -20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca aat ttc tgt aaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asn Phe Cys Lys
 -5 -1 1 5

ctg cct gct gaa acc gga cga tgt aat gcc aaa atc cca cgc ttc tac 144
 Leu Pro Ala Glu Thr Gly Arg Cys Asn Ala Lys Ile Pro Arg Phe Tyr
 10 15 20

tac aac cca cgt caa cat caa tgc ata gag ttt ctc tat ggt gga tgc 192
 Tyr Asn Pro Arg Gln His Gln Cys Ile Glu Phe Leu Tyr Gly Gly Cys
 25 30 35 40

gga ggg aat gct aac aat ttt aag acc att aag gaa tgc gaa agc acc 240
 Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Lys Glu Cys Glu Ser Thr
 45 50 55

tgt gct gca tga 252
 Cys Ala Ala

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 -5 -1 1 5

Leu Pro Ala Glu Thr Gly Arg Cys Asn Ala Lys Ile Pro Arg Phe Tyr
 10 15 20

Tyr Asn Pro Arg Gln His Gln Cys Ile Glu Phe Leu Tyr Gly Gly Cys
 25 30 35 40

Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Lys Glu Cys Glu Ser Thr
 45 50 55

Cys Ala Ala

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 -20 -15 -10

gag gtg ctg acc ccc gtc tcc agc aag gac cat cca aaa ttc tgt gaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp His Pro Lys Phe Cys Glu
 -5 -1 1 5

ctc cct gct gaa acc gga tca tgt aaa ggc aac gtc cca cgc ttc tac 144
 Leu Pro Ala Glu Thr Gly Ser Cys Lys Gly Asn Val Pro Arg Phe Tyr
 10 15 20

tac aac gca gat cat cat caa tgc cta aaa ttt att tat ggt gga tgt 192
 Tyr Asn Ala Asp His His Gln Cys Leu Lys Phe Ile Tyr Gly Gly Cys
 25 30 35 40

gga ggg aat gct aac aat ttt aag acc ata gag gaa ggc aaa agc acc 240
 Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Glu Glu Gly Lys Ser Thr
 45 50 55

tgt gct gcc tga 252
 Cys Ala Ala

<210> 22
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 -5 -1 1 5

Leu Pro Ala Glu Thr Gly Ser Cys Lys Gly Asn Val Pro Arg Phe Tyr
 10 15 20

Tyr Asn Ala Asp His His Gln Cys Leu Lys Phe Ile Tyr Gly Gly Cys
 25 30 35 40

Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Glu Glu Gly Lys Ser Thr
 45 50 55

Leu Leu Pro Asp Thr Gly Ser Cys Glu Asp Phe Thr Gly Ala Phe His
 10 15 20
 Tyr Ser Thr Arg Asp Arg Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40
 Gly Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 45 50 55
 Cys Ala Ala

<210> 25
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 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
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 gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca aag ttc tgt gaa 96
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu
 -5 -1 1 5

 ctg cct gct gac atc gga cca tgg gat gac ttt acc gga gcc ttc cac 144
 Leu Pro Ala Asp Ile Gly Pro Trp Asp Asp Phe Thr Gly Ala Phe His
 10 15 20

 tac agc cca cgt gaa cat gaa tgc ata gag ttt att tat ggt gga tgc 192
 Tyr Ser Pro Arg Glu His Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys
 25 30 35 40

 aaa ggg aat gct aac aac ttt aat acc caa gag caa tgc gaa agc acc 240
 Lys Gly Asn Ala Asn Asn Phe Asn Thr Gln Glu Gln Cys Glu Ser Thr
 45 50 55

 tgt gct gcc tga 252
 Cys Ala Ala

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<210> 29
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<212> DNA
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<223> Description of Artificial Sequence: Gene-specific
forward primer for Txln1

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30

<210> 30

<211> 31

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Gene-specific
reverse primer for Txln1

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aacgggaatt ctcagagcca cacgtgcttt c

31

<210> 31

<211> 32

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Gene-specific
reverse primer for Txln2

<400> 31

aacgggaatt ctcatgagcc acaggtagac tc

32

<210> 32

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: RACE-ready long
universal reverse primer

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45

<210> 33

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: RACE-ready
short universal reverse primer

<400> 33
ctaatacgac tcactatagg gc 22

<210> 34
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: RACE-ready
nested universal reverse primer

<400> 34
aagcagtgggt aacaacgcag agt 23

<210> 35
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<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Txln1-gene
specific forward primer

<400> 35
atcagcggat ccatgtctgg aggt 24

<210> 36
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Txln1
gene-specific reverse primer

<400> 36
tctcctgaat tctcaggcag cacaggt 27

<210> 37
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Txln-active
peptide sequence forward primer

<400> 37
attataggat ccaaggaccg tccggat 27

<210> 38
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Gene-specific
 forward primer for txln2

<400> 38
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<210> 39
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 <213> Artificial Sequence

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 forward primer for Txln3

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<210> 40
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<220>
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 forward primer for Txln4

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<210> 41
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 forward primer for Txln5

<400> 41
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<210> 42
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 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene-specific
forward primer for Txln6

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27

<210> 43

<211> 408

<212> DNA

<213> *Pseudonaja textilis*

<220>

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<222> (12)..(191)

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<222> (12)..(83)

<220>

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<222> (84)..(191)

<400> 43

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                    -20                      -15

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acc ctc tgg gag gtg ctg acc ccc gtc tcc agc aag gac cgt cca gag 98
Thr Leu Trp Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu
    -10                -5          -1  1          5

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ttg tgt gaa ctg cct cct gac acc gga cca tgt aga gtc aga tcc cca 146
Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Ser Pro
          10                15          20

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tcc ttc tac tac aac cca gat gaa caa aaa tgc cta gag ttt att 191
Ser Phe Tyr Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile
      25                30          35

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tatggtggat gcgaagggaa tgctaacc aaagaggaat gcgaaagcac 251

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ctgtgctgcc tgaatgagga gaccctcctg gattggatcg acagttccaa cttgacccaa 311

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agaccctgct tctgccctgg accaccctgg acacccttcc cccaaacccc accctggact 371

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aattcctttt ctctgcaata aagcttttgg tccagct 408

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<210> 44

<211> 60

<212> PRT

<213> *Pseudonaja textilis*

19

<400> 44

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
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Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu Leu Cys Glu
 -5 -1 1 5

Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Ser Pro Ser Phe Tyr
 10 15 20

Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile
 25 30 35

<210> 45

<211> 59

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Formula
 peptide

<220>

<221> MOD_RES

<222> (3)

<223> Lys, Arg, His, Asp, Glu, Gln or Asn; preferably
 His or Arg

<220>

<221> MOD_RES

<222> (5)

<223> Lys, Arg, His, Asp, Glu, Gln or Asn; suitably Lys,
 Asn, Glu or Asp

<220>

<221> MOD_RES

<222> (6)

<223> Hydrophobic amino acid; preferably Phe or Leu

<220>

<221> MOD_RES

<222> (8)

<223> Lys, Arg, His, Asp, Glu, Gln or Asn

<220>

<221> MOD_RES

<222> (10)

<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
 or Leu; suitably Pro or Leu

<220>

<221> MOD_RES

<222> (11)

<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
 or Leu, preferably Pro or Ala

<220>
<221> MOD_RES
<222> (12)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn, preferably
Glu or Asp

<220>
<221> MOD_RES
<222> (13)
<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
or Leu, suitably Thr or Ile

<220>
<221> MOD_RES
<222> (15)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (17)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn; suitably Lys,
Asn, Glu, Asp or Arg

<220>
<221> MOD_RES
<222> (18)
<223> Any amino acid; preferably Asp, Gly, Ala or Val

<220>
<221> MOD_RES
<222> (19)
<223> Any amino acid; suitably Phe, Asn, Lys or Arg

<220>
<221> MOD_RES
<222> (20)
<223> Any amino acid; preferably Thr, Pro, Phe or Ile

<220>
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<222> (21)
<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
or Leu

<220>
<221> MOD_RES
<222> (22)
<223> Any amino acid; suitably Ala, Ser or Arg

<220>
<221> MOD_RES
<222> (24)
<223> Aromatic amino acid; preferably Tyr or His

<220>
<221> MOD_RES
<222> (26)
<223> Any amino acid; suitably Ser or Asn

<220>
<221> MOD_RES
<222> (27)
<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
or Leu; preferably Pro, Ala or Thr

<220>
<221> MOD_RES
<222> (28)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn

<220>
<221> MOD_RES
<222> (29)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn; suitably Glu,
Asp, His or Gln

<220>
<221> MOD_RES
<222> (30)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn; preferably
His, Lys, Arg or Gln

<220>
<221> MOD_RES
<222> (31)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn

<220>
<221> MOD_RES
<222> (33)
<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
or Leu; preferably Leu or Ile

<220>
<221> MOD_RES
<222> (34)
<223> Lys, Arg, His, Asp, Glu, Gln or Asn; suitably Glu
or Lys

<220>
<221> MOD_RES
<222> (36)
<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val
or Leu; suitably Leu or Ile

<220>
<221> MOD_RES
<222> (41)
<223> Any amino acid; preferably Glu, Gly or Lys

<220>
<221> MOD_RES
<222> (42)
<223> Neutral amino acid, Pro, Ala, Gly, Ser, Thr, Val,
Leu or Cys; preferably Gly

<220>
 <221> MOD_RES
 <222> (48)
 <223> Any amino acid; suitably Lys, Asn or Ile

<220>
 <221> MOD_RES
 <222> (50)
 <223> Any amino acid; preferably Lys, Gln or Ile

<400> 45
 Lys Asp Xaa Pro Xaa Xaa Cys Xaa Leu Xaa Xaa Xaa Xaa Gly Xaa Cys
 1 5 10 15
 Xaa Xaa Xaa Xaa Xaa Xaa Phe Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Cys
 20 25 30
 Xaa Xaa Phe Xaa Tyr Gly Gly Cys Xaa Xaa Asn Ala Asn Asn Phe Xaa
 35 40 45
 Thr Xaa Glu Glu Cys Glu Ser Thr Cys Ala Ala
 50 55

<210> 46
 <211> 59
 <212> PRT
 <213> Pseudonaja textilis

<400> 46
 Lys Asp Arg Pro Asp Phe Cys Glu Leu Pro Ala Asp Thr Gly Pro Cys
 1 5 10 15
 Arg Val Arg Phe Pro Ser Phe Tyr Tyr Asn Pro Asp Glx Lys Lys Cys
 20 25 30
 Leu Glx Phe Ile Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Ile
 35 40 45
 Thr Lys Glu Glu Cys Glu Ser Thr Cys Gly Ser
 50 55

<210> 47
 <211> 59
 <212> PRT
 <213> Pseudonaja textilis

<400> 47
 Lys Asp Arg Pro Glu Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro Cys
 1 5 10 15
 Arg Val Arg Phe Pro Ser Phe Tyr Tyr Asn Pro Asp Glu Gln Lys Cys
 20 25 30
 Leu Glu Phe Ile Tyr Gly Gly Cys Glu Glu Asn Ala Asn Ala Phe Ile
 35 40 45

Thr Lys Glu Glu Cys Glu Ser Thr Cys Gly Gly
 50 55

<210> 48
 <211> 62
 <212> PRT
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Taicotoxin
 associated plasmin inhibitor

<400> 48
 Lys Asp Arg Pro Lys Phe Cys His Leu Pro Pro Lys Pro Gly Pro Cys
 1 5 10 15

Arg Ala Ala Ile Pro Arg Phe Tyr Tyr Asn Pro His Ser Lys Gln Cys
 20 25 30

Glu Lys Phe Ile Tyr Gly Gly Cys His Gly Asn Ala Asn Lys Phe Lys
 35 40 45

Thr Pro Asp Glu Cys Asn Tyr Thr Cys Leu Gly Val Ser Leu
 50 55 60

<210> 49
 <211> 58
 <212> PRT
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Aprotinin

<400> 49
 Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala
 1 5 10 15

Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
 20 25 30

Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala
 35 40 45

Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
 50 55

<210> 50
 <211> 180
 <212> DNA
 <213> Pseudonaja textilis

<220>
 <221> CDS
 <222> (1)..(180)

<220>

<221> modified_base

<222> (177)

<223> A, T, C or G

<400> 50

atg	aag	gac	cgg	cct	gat	ttt	tgt	gaa	ctg	cct	gct	gac	acc	gga	cca	48
Met	Lys	Asp	Arg	Pro	Asp	Phe	Cys	Glu	Leu	Pro	Ala	Asp	Thr	Gly	Pro	
1				5				10					15			

tgt	aga	gtc	aga	ttc	cca	tcc	ttg	tac	tac	aac	cca	gat	gaa	aaa	aaa	96
Cys	Arg	Val	Arg	Phe	Pro	Ser	Leu	Tyr	Tyr	Asn	Pro	Asp	Glu	Lys	Lys	
		20					25					30				

tgc	ctc	gag	ttt	att	tat	ggc	gga	tgc	gaa	ggg	aac	gct	aac	gat	ttt	144
Cys	Leu	Glu	Phe	Ile	Tyr	Gly	Gly	Cys	Glu	Gly	Asn	Ala	Asn	Asp	Phe	
		35				40					45					

atg	acc	aaa	gag	gag	tgt	gaa	agc	acg	tgt	ggc	agt					180
Met	Thr	Lys	Glu	Glu	Cys	Glu	Ser	Thr	Cys	Gly	Ser					
	50				55				60							

<210> 51

<211> 60

<212> PRT

<213> Pseudonaja textilis

<400> 51

Met	Lys	Asp	Arg	Pro	Asp	Phe	Cys	Glu	Leu	Pro	Ala	Asp	Thr	Gly	Pro
1				5				10					15		

Cys	Arg	Val	Arg	Phe	Pro	Ser	Leu	Tyr	Tyr	Asn	Pro	Asp	Glu	Lys	Lys
		20					25					30			

Cys	Leu	Glu	Phe	Ile	Tyr	Gly	Gly	Cys	Glu	Gly	Asn	Ala	Asn	Asp	Phe
		35				40					45				

Met	Thr	Lys	Glu	Glu	Cys	Glu	Ser	Thr	Cys	Gly	Ser
	50				55				60		

<210> 52

<211> 180

<212> DNA

<213> Pseudonaja textilis

<220>

<221> CDS

<222> (1)..(180)

<220>

<221> modified_base

<222> (177)

<223> A, T, C or G

25

<400> 52

atg aag gac cgg cct gag ttg tgt gaa ctg cct cct gac acc gga cca 48
 Met Lys Asp Arg Pro Glu Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro
 1 5 10 15

tgt aga gtc aga ttc cca tcc ttg tac tac aac cca gat gaa caa aaa 96
 Cys Arg Val Arg Phe Pro Ser Leu Tyr Tyr Asn Pro Asp Glu Gln Lys
 20 25 30

tgc ctc gag ttt att tat ggt gga tgc gaa gag aat gat aac gct ttt 144
 Cys Leu Glu Phe Ile Tyr Gly Gly Cys Glu Glu Asn Asp Asn Ala Phe
 35 40 45

atg acc aaa gag gag tgt gaa agc acg tgt ccn ggt 180
 Met Thr Lys Glu Glu Cys Glu Ser Thr Cys Pro Gly
 50 55 60

<210> 53

<211> 60

<212> PRT

<213> Pseudonaja textilis

<400> 53

Met Lys Asp Arg Pro Glu Leu Cys Glu Leu Pro Pro Asp Thr Gly Pro
 1 5 10 15

Cys Arg Val Arg Phe Pro Ser Leu Tyr Tyr Asn Pro Asp Glu Gln Lys
 20 25 30

Cys Leu Glu Phe Ile Tyr Gly Gly Cys Glu Glu Asn Asp Asn Ala Phe
 35 40 45

Met Thr Lys Glu Glu Cys Glu Ser Thr Cys Pro Gly
 50 55 60

<210> 54

<211> 408

<212> DNA

<213> Pseudonaja textilis

<400> 54

ggagcttcat catgtcttct ggaggtcttc ttctcctgct gggactcctc accctctggg 60
 aggtgctgac ccccgctctcc agcaaggacc gtccagagtt gtgtgaactg cctcctgaca 120
 cgggaccatg tagagtcaga tccccatcct tctactacaa ccagatgaa caaaaatgcc 180
 tagagtttat ttatggtgga tgcgaaggga atgctaacca attttatcac caaagaggaa 240
 tgcgaaagca cctgtgctgc ctgaatgagg agaccctcct ggattggatc gacagttcca 300
 acttgaccca aagaccctgc ttctgacctg gaccacctg gacacccttc ccccaaacc 360
 caccctggac taattccttt tctctgcaat aaagcttttg ttccagct 408

<210> 55

<211> 83

<212> PRT

<213> Pseudonaja textilis

26

<400> 55

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15

Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asp Phe Cys Glu
 20 25 30

Leu Pro Ala Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 35 40 45

Tyr Asn Pro Asp Glu Lys Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 50 55 60

Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 65 70 75 80

Cys Ala Ala

<210> 56

<211> 252

<212> DNA

<213> Pseudonaja textilis

<400> 56

atgtcttctg gaggtcttct tctcctgctg ggactcctca ccctctggga ggtgctgacc 60
 cccgtctcca gcaaggaccg tccggatttc tgtgaactgc ctgctgacac cggaccatgt 120
 agagtcagat tcccatcctt ctactacaac ccagatgaaa aaaagtgcct agagtttatt 180
 tatggtggat gcgaaggga tgctaacaat tttatcacca aagaggaatg cgaaagcacc 240
 tgtgctgcct ga 252

<210> 57

<211> 83

<212> PRT

<213> Pseudonaja textilis

<400> 57

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15

Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Glu Leu Cys Glu
 20 25 30

Leu Pro Pro Asp Thr Gly Pro Cys Arg Val Arg Phe Pro Ser Phe Tyr
 35 40 45

Tyr Asn Pro Asp Glu Gln Lys Cys Leu Glu Phe Ile Tyr Gly Gly Cys
 50 55 60

Glu Gly Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 65 70 75 80

Cys Ala Ala

27

<210> 58
 <211> 252
 <212> DNA
 <213> Pseudonaja textilis

<400> 58
 atgtcttctg gaggtcttct tctcctgctg ggactcctca ccctctggga ggtgctgacc 60
 cccgtctcca gcaaggaccg tccagagttg tgtgaactgc ctctgacac cggaccatgt 120
 agagtcagat tcccatcctt ctactacaac ccagatgaac aaaaatgcct agagtttatt 180
 tatggtggat gcgaaggga tgctaacaat tttatcacca aagaggaatg cgaaagcacc 240
 tgtgctgcct ga 252

<210> 59
 <211> 83
 <212> PRT
 <213> Pseudonaja textilis

<400> 59
 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Asn Phe Cys Lys
 20 25 30
 Leu Pro Ala Glu Thr Gly Arg Cys Asn Ala Lys Ile Pro Arg Phe Tyr
 35 40 45
 Tyr Asn Pro Arg Gln His Gln Cys Ile Glu Phe Leu Tyr Gly Gly Cys
 50 55 60
 Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Lys Glu Cys Glu Ser Thr
 65 70 75 80
 Cys Ala Ala

<210> 60
 <211> 252
 <212> DNA
 <213> Pseudonaja textilis

<400> 60
 atgtcttctg gaggtcttct tctcctgctg ggactcctca ccctctggga ggtgctgacc 60
 cccgtctcca gcaaggaccg tccaaatttc tgtaaactgc ctgctgaaac cggacgatgt 120
 aatgccaaaa tccacgctt ctactacaac ccacgtcaac atcaatgcat agagtttctc 180
 tatggtggat gcggagggaa tgctaacaat ttaagacca ttaaggaatg cgaaagcacc 240
 tgtgctgcat ga 252

<210> 61
 <211> 83
 <212> PRT
 <213> Pseudonaja textilis

28

<400> 61

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp His Pro Lys Phe Cys Glu
 20 25 30
 Leu Pro Ala Asp Thr Gly Ser Cys Lys Gly Asn Pro Val Arg Phe Tyr
 35 40 45
 Tyr Asn Ala Asp His His Gln Cys Leu Lys Phe Ile Tyr Gly Gly Cys
 50 55 60
 Gly Gly Asn Ala Asn Asn Phe Lys Thr Ile Glu Glu Cys Lys Ser Thr
 65 70 75 80
 Cys Ala Ala

<210> 62

<211> 252

<212> DNA

<213> Pseudonaja textilis

<400> 62

atgtcttctg gaggtcttct tctcctgctg ggactcctca ccctctggga ggtgctgacc 60
 cccgtctcca gcaaggacca tccaaaattc tgtgaactcc ctgctgaaac cggatcatgt 120
 aaaggcaacg tcccacgctt ctactacaac gcagatcatc atcaatgcct aaaatttatt 180
 tatggtggat gtggaggga tgctaacaat tttaagacca tagaggaagg caaaagcacc 240
 tgtgctgcct ga 252

<210> 63

<211> 83

<212> PRT

<213> Pseudonaja textilis

<400> 63

Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu
 20 25 30
 Leu Leu Pro Asp Thr Gly Ser Cys Glu Asp Phe Thr Gly Ala Phe His
 35 40 45
 Tyr Ser Thr Arg Asp Arg Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys
 50 55 60
 Gly Cys Asn Ala Asn Asn Phe Ile Thr Lys Glu Glu Cys Glu Ser Thr
 65 70 75 80
 Cys Ala Ala

<210> 64
 <211> 252
 <212> DNA
 <213> Pseudonaja textilis

<400> 64
 atgtcttctg gaggtcttct tctcctgctg ggactcctca ccctctggga ggtgctgacc 60
 cccgtctcca gcaaggaccg tccaaaattc tgtgaactgc ttcctgacac cggatcatgt 120
 gaagacttta ccggagcctt ccactacagc acacgtgac gtgaatgcat agagtttatt 180
 tatggtggat gcggagggaa tgctaacaat tttatcacca aagaggaatg cgaaagcacc 240
 tgtgctgcct ga 252

<210> 65
 <211> 83
 <212> PRT
 <213> Pseudonaja textilis

<400> 65
 Met Ser Ser Gly Gly Leu Leu Leu Leu Leu Gly Leu Leu Thr Leu Trp
 1 5 10 15
 Glu Val Leu Thr Pro Val Ser Ser Lys Asp Arg Pro Lys Phe Cys Glu
 20 25 30
 Leu Pro Ala Asp Ile Gly Pro Cys Asp Asp Phe Thr Gly Ala Phe His
 35 40 45
 Tyr Ser Pro Arg Glu His Glu Cys Ile Glu Phe Ile Tyr Gly Gly Cys
 50 55 60
 Lys Gly Asn Ala Asn Asn Phe Asn Thr Gln Glu Glu Cys Glu Ser Thr
 65 70 75 80
 Cys Ala Ala

<210> 66
 <211> 252
 <212> DNA
 <213> Pseudonaja textilis

<400> 66
 atgtcttctg gaggtcttct tctcctgctg ggactcctca ccctctggga ggtgctgacc 60
 cccgtctcca gcaaggaccg tccaaagtgc tgtgaactgc ctgctgacat cggaccatgg 120
 gatgacttta ccggagcctt ccactacagc ccacgtgaac atgaatgcat agagtttatt 180
 tatggtggat gcaaagggaa tgctaacaac tttaatccc aagagcaatg cgaaagcacc 240
 tgtgctgcct ga 252